

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: **TBD**

Region: Winston-Salem Regional Office
County: Stokes
NC Facility ID: 8500004
Inspector's Name: Robert Barker
Date of Last Inspection: 08/03/2016
Compliance Code: 3 / Compliance - inspection

<p align="center">Facility Data</p> <p>Applicant (Facility's Name): Duke Energy Carolinas, LLC - Belews Creek Steam Station</p> <p>Facility Address: Duke Energy Carolinas, LLC - Belews Creek Steam Station 3195 Pine Hall Road Walnut Cove, NC 27052</p> <p>SIC: 4911 / Electric Services NAICS: 221112 / Fossil Fuel Electric Power Generation</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>			<p align="center">Permit Applicability (this application only)</p> <p>SIP: 02D: .0501, .0503, .0510, .0515, .0516, .0519, .0521, .0524, .0535, .0536, .0540, .0606, .0614, 1100, .1109, .1111, .2100 02Q: .0317, .0400 NSPS: OOO, IIII, JJJ NESHAP: ZZZZ, DDDDD, UUUUU, Case-by-Case PSD: Major PSD Avoidance: H₂S, PM NC Toxics: 02D .1100 112(r): RMP required Other: Acid Rain, CSAPR Removed: 02D .2403, .2404, .2405, .2500</p>							
<p align="center">Contact Data</p> <table border="1"> <tr> <th>Facility Contact</th> <th>Authorized Contact</th> <th>Technical Contact</th> </tr> <tr> <td>Keeley McCormick Environmental Coordinator (336) 445-0204 3195 Pine Hall Road Belews Creek, NC 27009</td> <td>Reginald Anderson General Manager III (336) 445-0501 3195 Pine Hall Road Belews Creek, NC 27009</td> <td>Erin Wallace Environmental Specialist II (919) 546-5797 410 South Wilmington Street Raleigh, NC 27601</td> </tr> </table>			Facility Contact	Authorized Contact	Technical Contact	Keeley McCormick Environmental Coordinator (336) 445-0204 3195 Pine Hall Road Belews Creek, NC 27009	Reginald Anderson General Manager III (336) 445-0501 3195 Pine Hall Road Belews Creek, NC 27009	Erin Wallace Environmental Specialist II (919) 546-5797 410 South Wilmington Street Raleigh, NC 27601	<p align="center">Application Data</p> <p>Application Number: 8500004.15C, .15G, & .15H Date Received: 6/26/2015 (.15C) 12/18/2015 (.15G & H) Application Type: Title IV (.15C & .15H) Renewal (.15G) Application Schedule: TV-Renewal</p>	
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			<p align="center">Existing Permit Data</p> <p>Existing Permit Number: 01983/T30 Existing Permit Issue Date: 08/29/2016 Existing Permit Expiration Date: 01/31/2017</p>							

Total Actual emissions in TONS/YEAR:							
CY	SO ₂	NO _X	VOC	CO	PM ₁₀	Total HAP	Largest HAP
2014	7,044.98	6,121.65	137.25	1,142.59	1,437.99	135.95	116.32 [Hydrogen chloride (hydrochlori)]
2013	5,080.05	5,017.18	130.53	1,086.46	1,661.53	155.00	126.37 [Hydrogen chloride (hydrochlori)]
2012	4,080.92	4,958.19	146.83	1,221.64	1,790.17	199.36	164.12 [Hydrogen chloride (hydrochlori)]
2011	3,309.22	4,005.43	181.28	1,508.67	2,128.43	245.99	202.77 [Hydrogen chloride (hydrochlori)]
2010	3,643.67	3,277.07	167.21	1,394.95	1,659.02	222.51	185.51 [Hydrogen chloride (hydrochlori)]

<p>Review Engineer: Russell Braswell</p> <p>Review Engineer's Signature: _____ Date: _____</p>		<p align="center">Comments / Recommendations:</p> <p>Issue 01983/T31 Permit Issue Date: TBD Permit Expiration Date: TBD</p>
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1. Purpose of Application:

- .15C

Duke Energy Carolinas, LLC - Belews Creek Steam Station (Duke – Belews) currently holds a Title IV Acid Rain Permit (ARP) for its two coal-fired boilers. This permit application was submitted in order to renew the ARP.

- .15G

Duke – Belews currently operates under Title V Air Quality Permit 01983T30, which is set to expire on January 31, 2017. This application was submitted in order to renew the permit. Because the renewal application was received at least nine months before the expiration date of the permit, the existing permit will remain in effect, regardless of expiration date, until this application is approved or denied.

- .15H

Duke – Belews submitted this application to update the NOx averaging plan section of the Title IV ARP.

2. Facility Description:

"This facility is an electric generating power plant. The plant normally operates 24 hours per day, 7 days a week, for 52 weeks per year...Belews Creek was built in the early and mid-1970s and has a generating capacity of more than 2,240 megawatts...The units are known as 'super critical', which means they operate at 3,600 pounds of pressure per square inch (average boiler units operate at 2,400 pounds per square inch)...Belews Creek is the largest coal-fired plant on the Duke Energy system and is capable of using 19,400 tons of coal per day and discharging a million gallons per minute."¹

3. Permit Actions Since the Previous Permit Renewal:

- February 29, 2012 Permit T26 was issued. This action renewed the permit for five years. In addition, it added requirements under CAM, CAIR, 02D .2500 and 02D .0606.
- August 15, 2012 Application .12A received. This was for a 1st step of a two-step TV-significant modification.
- August 27, 2012 Application .12C received. This was for a TV-Minor modification.
- November 5, 2012 Permit T27 issued in response to application .12A. This action added two temporary hydrated lime injection systems. These systems were added to test particulate emissions from the boilers. Because this was issued in response to a 1st step application, a subsequent 2nd step application was required.
- April 1, 2013 Permit T28 issued in response to application .12C. This action added several small emergency generators and corrected the descriptions of some control devices.

1 From Robert Barker's inspection report dated August 4, 2016.

- April 17, 2013 Application .13A received. This was for a one-step TV-Significant modification.
- January 28, 2015 Permit T29 issued in response to application .13A. This action allowed for the permanent use of fuel additives in the boilers, and allowed for PM CEMS to be used in the place of COMS.
- February 25, 2015 Application .15A received. This was for the 2nd step of a two-step TV-Significant modification.
- August 29, 2016 Permit T30 issued in response to application .15A. This action added requirements under MACT Subpart UUUUU to the permit. In addition, it added more options for the use of PM CEMS vs. COMS, changed emission limits under 02D .0536, and satisfied the 2nd step requirement added in the T27 permit.

4. Application Chronology:

- June 26, 2015 Application .15C received
- December 18, 2015 Applications .15G and .15H received.
- January 21, 2016 Applications transferred to Russell Braswell
- August 19, 2016 Email sent to Erin Wallace regarding if several sources had established "normal" visible emissions. She responded later that day.
- October 11, 2016 Email sent to Erin Wallace regarding the limestone operations, NSPS OOO, and the potential applicability of NSPS Y. She responded on October 13.
- November 7, 2016 Email sent to Erin Wallace regarding the auxiliary boilers and their potential classification under MACT Subpart DDDDD as "limited-use". She responded the next day.
- November 10, 2016 An initial draft of the permit and review were sent to DAQ staff (Tom Anderson, Betty Gatano, Samir Parekh, Jalal Adouli, Robert Barker) and Duke – Belews staff (Erin Wallace). For a summary of comments received, see Attachment 2.
- XXXXXX The Public / EPA Notice periods began.
- XXXXXX The Notice / Review periods ended.
- XXXXXX Permit issued.

5. Permit Modifications/Changes:

- Qualifying emergency-use engines have been moved to the insignificant activities list.
- CSAPR has been added to the permit.
- References to CAIR have been removed from the permit.

- References to 15A NCAC 02D .2500 and 02Q .0705 have been removed from the permit.
- A condition for MACT Subpart DDDDD has been added to the permit.
- The acid rain permit has been updated based the facility's application.
- Added footnote regarding the burning of oil (etc.) spilled on the coal storage pile. This was requested by Duke – Belews, and similar language can be found in the Duke – Roxboro² permit.

The complete list of changes can be found in Attachment 1.

6. Regulatory Review:

Duke - Belews is subject to the following regulations, in addition to the requirements in the General Conditions:

- 15A NCAC 02D .0501 "Compliance with Emission Control Standards"
- 15A NCAC 02D .0503 "Particulates from Fuel Burning Indirect Heat Exchangers"
- 15A NCAC 02D .0510 "Particulates from Sand, Gravel, or Crushed Stone Operations"
- 15A NCAC 02D .0515 "Particulates from Miscellaneous Industrial Processes"
- 15A NCAC 02D .0516 "Sulfur Dioxide from Combustion Sources"
- 15A NCAC 02D .0519 "Control of Nitrogen Dioxide and Nitrogen Oxides Emissions"
- 15A NCAC 02D .0521 "Control of Visible Emissions"
- 15A NCAC 02D .0524 "New Source Performance Standards"
(40 CFR Part 60, Subparts OOO, IIII, JJJJ)
- 15A NCAC 02D .0535 "Excess Emissions Reporting and Malfunctions"
- 15A NCAC 02D .0536 "Particulate Emissions from Electric Utility Boilers"
- 15A NCAC 02D .0540 "Particulates from Fugitive Dust Emission"
- 15A NCAC 02D .0606 "Sources Covered by Appendix P of 40 CFR Part 51"
- 15A NCAC 02D .0614 "Compliance Assurance Monitoring"
- 15A NCAC 02D .1100 "Control of Toxic Air Pollutants"
- 15A NCAC 02D .1109 "112(j) Case-by-Case Maximum Achievable Control Technology"
- 15A NCAC 02D .1111 "Maximum Achievable Control Technology"
(40 CFR Part 63, Subparts ZZZZ, DDDDD, UUUUU)
- 15A NCAC 02Q .0317 "Avoidance Conditions"
(PSD Avoidance)
- 15A NCAC 02Q .0400 "Acid Rain Procedures"

An extensive review for each applicable regulation is not included in this document, as the facility's status with respect to these regulations has not changed. The permit will be updated to reflect the most current stipulations for all applicable regulations. For a discussion of MACT requirements, see Section 7.b. For a discussion of conditions removed from the permit, see below:

a. 15A NCAC 02D .2500 "Mercury Rules for Electric Generators"

This rule has expired. References to it have been removed from the permit. Note that MACT Subpart UUUUU (aka Mercury and Air Toxics Standards, or MATS) also regulates mercury emissions.

2 Reference facility 7300029, permit T51 issued October 21, 2016.

b. 15A NCAC 02Q .0309 "Termination, Modification and Revocation of Permits"

In the previous permit, this rule was used as an avoidance condition for 02Q .0705. Given that 02Q .0705 has been repealed (see Section 8.), the avoidance condition is unnecessary. Therefore, references to 02Q .0309 have been removed from the permit.

c. Clean Air Interstate Rule (CAIR) and Cross State Air Pollution Rule (CSAPR)

According to 40 CFR 52.35(f) and 52.36(e), CAIR no longer applies as of January 1, 2015. This rule has been replaced by CSAPR. Because the rule no longer applies, all references thereto have been removed from the permit.

CSAPR (specifically, 40 CFR Part 97, Subparts AAAAA, BBBBB, and CCCCC) was originally scheduled to take effect on January 1, 2012. This rule was planned as a replacement for CAIR. However, CSAPR was challenged in court and initially vacated by the DC Circuit Court. Legal issues were finally resolved in April 2014, when the US Supreme Court reversed that decision. Because the regulation was delayed by court proceedings, the effective date of the rule was moved to January 1, 2015.

Under this rule, each of the boilers at the facility is considered a "large electric generating unit", per 40 CFR 52.34. This rule and all requirements thereof are considered Federal-enforceable only. Compliance will be determined by the US EPA, not NC DAQ. A reference to this rule has been added to the permit under Section 2.1 A.9.

7. Requirements under CFR Title 40:

a. New Source Performance Standards (NSPS)

1. *Subparts D "Fossil-Fuel-Fired Steam Generators" and Da "Electric Utility Steam Generating Units"*

According to §60.40(c), NSPS Subpart D only applies to sources built, modified, or reconstructed after August 17, 1971.

According to §60.40Da(a)(2), NSPS Subpart Da only applies to sources built, modified, or reconstructed after September 18, 1978.

According to Section 2.3 A.3. of the permit, the boilers at this facility were constructed before 1971, so neither of these rules apply. Furthermore, the changes made with the T29³ permit did not constitute a modification of the boilers.

Therefore, neither of these rules apply to either of the boilers.

2. *Subpart Y "Coal Preparation and Processing Plants"*

According to §60.250(b), this rule applies to coal processing facilities built or modified after October 27, 1974. This facility was constructed before that date, and according to an email from Erin Wallace, no changes to the coal processing activities have been made that would constitute a modification since that date.

3 See Ed Martin's review, issued January 28, 2015

Therefore, the coal preparation and processing sources at Duke – Belews are not subject to this rule.

3. *Subpart OOO "Nonmetallic Mineral Processing Plants"*

This rule applies to nonmetallic mineral processing plants that operate a crusher. The limestone handling sources (conveyors, loading/unloading, and silos) at this facility are subject to this rule. Note that lime handling is not subject to this rule because the facility does not process lime through crushers.

The rule has opacity limits for individual sources based on 1) the nature of the source, 2) if the emissions are fugitive or controlled, and 3) if the source is enclosed in a building. In order to demonstrate compliance, Duke – Belews must perform regular VE monitoring for the sources and regular maintenance on control devices used to comply with the rule. Records of monitoring and maintenance must be kept and reported twice per year.

4. *Subpart IIII "Stationary Compression Ignition Internal Combustion Engines"*

This rule applies to all stationary diesel engines manufactured after 2006. There are several diesel-fired engines at the facility, but not all are subject to the rule:

Subject to NSPS IIII	Not Subject
IES-93 IGEN-34 IGEN-35	IGEN-5(AC) IGEN-36(EmGen) IGEN-37(FP) ES-4a(EmGen) ES-23(EQWP)

All of the engines subject to the rule are considered emergency-use. In general, emergency engines subject to this rule must:

- Be certified to comply with the emission standards in 60.4202;
- Use fuel with less than 15ppm of sulfur;
- Install a non-resettable hour meter;
- Operate and maintain the engine according to the manufacturer's recommendations.

Note that the only engine subject to the rule is on the insignificant activities list. Therefore, no stipulation for this rule will be included in the permit.

5. *Subpart JJJJ "Stationary Spark Ignition Internal Combustion Engines"*

This rule applies to all stationary spark-ignition engines manufactured after 2008. There are two spark-ignition engines at the facility: IGEN-EmGenLF (subject to the rule) and IGEN-85EmGen (not subject).

In general, emergency engines subject to this rule must:

- Be certified to comply with the emission standards as required by 60.4233(d);
- Install a non-resettable hour meter;
- Operate and maintain the engine according to the manufacturer's recommendations.

Note that all of the engines subject to the rule are on the insignificant activities list. Therefore, no stipulation for this rule will be included in the permit.

b. Maximum Available Control Technology (MACT)

This facility is considered a major source of hazardous air pollutants (HAP). Rules specifically aimed at area sources of HAP (e.g. Subpart JJJJJ) do not apply to this facility.

1. *Subpart ZZZZ "Stationary Reciprocating Internal Combustion Engines"*

This rule applies to all stationary internal combustion engines.

This rule has several subcategories based on fuel type, HAP major vs. area source, new vs. existing, engine size, and emergency vs. nonemergency. The requirements of the rule differ based on these criteria:

Engines located at a major source of HAP	Specific rule	Requirements under MACT ZZZZ	Engines
Engines also subject to an NSPS	63.6590(c)(6)	Comply with the relevant NSPS	IES-93 IGEN-34 IGEN-35 IGEN-EmGenLF
Existing emergency engines > 500 HP	63.6590(b)(3)(iii)	No requirements	ES-4a(EmGen) ES-23(EQWP) IGEN-5(AC)
Existing emergency engines < 500 HP	See below		IGEN-36(EmGen) IGEN-37(FP) IGEN-85EmGen

For the third category, the requirements are, in general:

- Perform maintenance according to Table 2c to Subpart ZZZZ;
- Minimize time spent during startup and idle;
- Operate according to the manufacturer's emission-related written instructions;
- Install a non-resettable hour meter

Note that all of the engines in this category are on the insignificant activities list. Therefore, no stipulation for this rule will be included in the permit.

2. *Subpart DDDDD "Industrial, Commercial, and Institutional Boilers and Process Heaters"*

This rule applies to all boilers located at a HAP-Major facility. Electric generating units are not subject to the rule (see 40 CFR 63.7491(a)), so the rule only applies to the two auxiliary boilers (ID Nos. ES-3 and ES-4).

The rule has different requirements based on fuel type, boiler size, construction date, etc. For the purposes of this rule, the auxiliary boilers are greater than 10 mmBtu/hr, light liquid-fired, and existing.

In general, for these boilers the rule requires:

- Conduct a one-time energy assessment;
- Comply with emission limits in Table 2 to the Subpart;
- Conduct an annual tune-up;
- Install an oxygen analyzer system, or a CO and O₂ CEMS;
- Conduct an initial performance test; and
- Burn ultra-low sulfur fuel or conduct subsequent testing.

Records of testing, tune-ups, and general maintenance must be kept and reported regularly.

This rule currently does not apply to the auxiliary boilers because they are currently subject to North Carolina's Case-by-Case MACT for boilers and process heaters. Once that rule expires (currently May 19, 2019), these boilers will have to comply with MACT Subpart DDDDD.

This rule has a subcategory of boiler called "limited-use". Boilers in this category must have an annual heat input of less than 10% of their maximum potential annual heat input. This limit must be an enforceable condition in the permit. Limited-use boilers have fewer requirements than other subcategories. Based on the heat inputs reported in the annual emission inventory, the auxiliary boilers could potentially qualify as limited use. However, in an email, Erin Wallace stated that Duke is not prepared to make a decision on this issue during the permit renewal process. Duke – Belews may apply for a permit modification in the future in order to pursue the limited-use classification.

3. *Subpart UUUUU "Coal- and Oil-Fired Electric Utility Steam Generating Units"*

This rule applies to all coal-fired electric generating units located at major sources of HAPs. Each of the primary boilers at Duke – Belews are subject to this rule.

The rule has several sets of emission limits: 1) either a PM limit, a total HAP limit, or metal HAP limit; 2) either an HCl limit or an SO₂ limit; 3) a mercury limit. The rule requirements differ based on the chosen emission limits. Ultimately, Duke - Belews has chosen the following compliance options:

- Operate a CEMS for PM and SO₂,
- Operate a CEMS (or sorbent trap) for mercury; and
- Perform periodic tune-ups

The rule specifies operating, monitoring, and recordkeeping requirements for each compliance option.

4. *Case-by-Case MACT for Boilers and Process Heaters (CBCM)*

North Carolina implemented the Case-by-Case MACT provisions under Section 112(j) of the Clean Air Act after MACT Subpart DDDDD (5D) was initially vacated on July 30, 2008. The CBCM rule takes the place of 5D until that rule has been implemented again. Based on the new implementation date, the CBCM will remain in effect at Duke – Belews until May 20, 2019. As with 5D, the CBCM applies to boilers that are not subject to MACT Subpart UUUUU.

In general, Duke – Belews must perform maintenance and inspections of the subject boilers as recommended by the manufacturer. In addition, each boiler must receive an annual tune-up.

A paragraph has been added to the permit condition that discusses the CBCM expiration date and the transition to 5D.

c. Prevention of Significant Deterioration (PSD)

The facility is considered a Major Source for PSD, but has not triggered a PSD review.

The facility is currently avoiding triggering a PSD review by limiting emissions of PM from the limestone handling sources and emissions of hydrogen sulfide from the wastewater treatment facility.

In order to demonstrate compliance with the avoidance limitations, Duke – Belews must:

- limit the operation of sources venting to the baghouse CD(RULBf) to 832 hours per year;
- limit the operation of sources venting to the bagfilter CD(LPTTBf) to 2,555 hours per year;
- keep records of operating time and report them twice per year.

The permit has no specific requirements for the wastewater treatment facility.

d. Section 112(r) of the Federal Clean Air Act

Duke – Belews has the capacity to store anhydrous ammonia in quantities greater than the threshold listed in 40 CFR 68.130. Therefore, the facility must submit and maintain a Risk Management Plan (RMP) pursuant to 40 CFR 68.150. The plan must be updated at least once every five years.

According to the renewal application, the RMP was most recently updated in July 2012.

e. Reasonably Available Control Technology (RACT)

The facility is not located in an area of ozone nonattainment, therefore RACT does not apply.

f. Compliance Assurance Monitoring (CAM)

CAM applies to a control device if the following criteria are met:

1. The unit being controlled is subject to a non-exempt emission standard (as defined by 02D .0614(b)(1)),
2. The control device is being used to comply with the emission standard, and
3. The unit being controlled has potential emissions of the pollutant subject to the emission standard of greater than major source thresholds.

Duke – Belews uses control devices on the primary boilers and the coal-handling processes. The coal-handling processes do not have potential emissions that would trigger CAM, so CAM does not apply to them.

The below table examines each of the boilers' emission limits for CAM applicability:

Pollutant	Regulation	Exempt from CAM?	Notes
SO ₂	02D .0501	Yes	02D .0614(b)(1)(F)*
	Acid Rain Permit	Yes	02D .0614(b)(1)(C)

Pollutant	Regulation	Exempt from CAM?	Notes
	CSAPR	Yes	02D .0614(b)(1)(D)
NO _x	02D .0519	Yes	02D .0614(b)(1)(F)*
	Acid Rain Permit	Yes	02D .0614(b)(1)(C)
	CSAPR	Yes	02D .0614(b)(1)(D)
PM	02D .0536	No	See discussion below.
TAPs	02D .1100	Yes	TAPs do not have a major-source threshold
HAPs	MACT Subpart UUUUU	Yes	02D .0614(b)(1)(A)

* Duke – Belews uses a continuous emission monitoring system (CEMS) in order to demonstrate compliance with these rules. This qualifies as a continuous compliance determination method.

Duke – Belews has two separate options for demonstrating compliance with the PM limit in 02D .0536: 1) use a PM CEMS or 2) use a continuous opacity monitoring system (COMS). The PM CEMS qualifies as a continuous compliance determination method; when using the PM CEMS, CAM does not apply. However, the COMS does not qualify for this exemption, so CAM applies only when the COMS is used to demonstrate compliance.

Duke – Belews has submitted a CAM plan for periods where the COMS is used to demonstrate compliance with the PM limit. The CAM plan lays out criteria for maximum allowable opacity, what qualifies as an excursion, what to do in the event of an excursion, and the possibility of future emission testing.

The CAM plan has not been updated, and no changes to the plan appear necessary.

8. Toxic Air Pollutants

a. 15A NCAC 02D .1100 "Control of Toxic Air Pollutants"

Duke – Belews has previously performed air dispersion modeling for ammonia emissions from the anhydrous ammonia injection systems on the boilers. The emission limits derived from that modeling are listed in the permit. No recordkeeping or reporting is required to demonstrate compliance with the ammonia emission limit.

Duke – Belews has also performed air dispersion modeling for hydrogen sulfide emissions from the wastewater treatment facility. The emission limits derived from that modeling are listed in the permit. No recordkeeping or reporting is required to demonstrate compliance with the H₂S emission limit.

b. 15A NCAC 02Q .0705 "Existing Facilities and SIC Calls"

This regulation has been repealed. References to it have been removed from the permit.

9. Acid Rain Permit

15A NCAC 02Q .0400 applies to all sources subject to Title IV of the Clean Air Act, as applicable in 40 CFR 72.6. Each of the coal-fired boilers at this facility is subject to the rule.

The rule requires Duke – Belews to comply with annual SO₂ emission limits, an annual heat input limit, and an average NO_x emission rate.

- SO₂

The SO₂ limit is allocated to individual sources by the US EPA. In previous years, it was 30,966 tons for Unit 1 and 32,616 for Unit 2, but that may change in the future based on the way EPA assigns allocations. A change in SO₂ allocations does not require an update to the Title IV permit.

- NO_x

The rule contains NO_x emission limits based on the size and type of boiler. However, a facility may enter into an averaging plan that calculates the average emission rate of several different facilities. Each of the participants in the averaging plan must meet certain NO_x emission rate and heat input limits in order for all of the participants to comply. Duke – Belews has entered into an averaging plan with several other Duke-owned facilities in NC. Application .15H was submitted in order to change the averaging plan limits.

The previous acid rain permit includes an averaging plan that covers several Duke facilities in North Carolina, South Carolina, and Florida. The updated plan now only includes facilities in North Carolina. The revised limits are:

Boiler	Old limits	New limits	Normal limit
Unit 1	0.09 lb/mmBtu	0.250 lb/mmBtu	0.68 lb/mmBtu
	75,782,700 mmBtu/yr	26,834,070 mmBtu/yr	
Unit 2	0.08 lb/mmBtu	0.250 lb/mmBtu	0.68 lb/mmBtu
	76,500,900 mmBtu/yr	27,664,080 mmBtu/yr	

Ultimately, SO₂ allocations and overall compliance with the Acid Rain Permit are determined by the US EPA, not NC DAQ. The permit will be updated to reflect the recent changes to the averaging plan. The issue and expiration dates will match the Title V permit such that only one permit application will be necessary to renew them both in the future.

10. Facility Emissions Review

The Title V and Title IV renewals and the Title IV modification are not expected to change potential emissions from the facility.

For a historical summary of actual emissions from this facility, see the table on the first page of this review.

11. Compliance Status

a. Notices of Violation/Recommendation for Enforcement since the previous renewal

None.

b. Inspection status

The facility was most recently inspected on August 4, 2016 by Robert Barker. Duke – Belews appeared to be in compliance with the air quality permit at that time.

12. Other Regulatory Concerns

A PE seal was not required for the Title V renewal, Title IV renewal, or Title IV modification.

A zoning consistency form was not required for this permit renewal.

13. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 2Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 2Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA.

Also pursuant to 2Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 2Q .0521 above.

14. Recommendations

Issue permit 01983T31.

Change List

Page*	Section*	Change
Throughout	Throughout	<ul style="list-style-type: none"> Fixed formatting Updated dates/permit numbers Removed references to CAIR because this rule has expired Removed references to 02Q .0705 because this rule has been repealed
n/a	Insignificant Activities List	<ul style="list-style-type: none"> Removed portable sources: I-23, 43-49, 86, 87 Removed sources based on Permittee's renewal application: I-3, 7, 8, 33-38, 42, 52, 53, 56-58, 62, 63, 81, 82 Moved qualifying emergency-use engines to this list, and updated ID Nos. to reflect changes: ES-5(AC), ES-34, ES-35, ES-36(EmGen), ES-37(FP), ES-EmGenLF, ES-85EmGen
n/a	Table of Contents	<ul style="list-style-type: none"> Removed reference to Section 2.6. because this section no longer exists
3-7	Permitted Emission Source List	<ul style="list-style-type: none"> Changed formatting of control devices to be clearer Moved qualifying emergency-use engines to the insignificant activities list Added note regarding applicability of MACT Subpart ZZZZ Fixed footnotes Removed footnote regarding intermittent operation of control devices. This does not change the requirements of the permit because DAQ considers this to be implicit.
	2.1 A.9.	<ul style="list-style-type: none"> Added reference to CSAPR
	2.1 A.11.	<ul style="list-style-type: none"> Removed reference to 02D .2500 because this rule has been repealed
	2.1 B.4.	<ul style="list-style-type: none"> Added paragraph regarding expiration of 112(j) Added reporting requirement per 02Q .0508(f)
	2.1 B.5.	<ul style="list-style-type: none"> Added permit condition for MACT Subpart DDDDD
	2.1 C., 2.1 E.	<ul style="list-style-type: none"> Moved note regarding MACT Subpart ZZZZ applicability to the emission source list
	2.1 D.2.c., 2.1 D.3.g. 2.1 G.2.c.	<ul style="list-style-type: none"> Removed requirement to establish "normal" VE because Duke has completed the requirement. Updated monitoring/recordkeeping to reflect new DAQ standard language.
	2.1 I., J., K., M., and N. (former)	<ul style="list-style-type: none"> Removed these sections because the applicable sources have been moved to the insignificant activities list.
	2.1 H.2.	<ul style="list-style-type: none"> Added note regarding most recent modeling approval.
	2.1 I (formerly 2.1.L)	<ul style="list-style-type: none"> Renumbered this section to reflect removal of previous sections. Removed initial reporting requirement because Duke has completed this requirement.
	2.2 C. (former)	<ul style="list-style-type: none"> Removed this section because the permit condition it contained has also been removed.
	2.2 C. (new)	<ul style="list-style-type: none"> Added section explaining that the emergency-use engines have no requirements under MACT Subpart ZZZZ.
	2.3	<ul style="list-style-type: none"> Moved NSPS exemption to 2.3.B. because it explicitly only applies to ES-3 and ES-4 Removed references to sources on the insignificant activities list

Page*	Section*	Change
	2.4	<ul style="list-style-type: none">Updated NOx/Btu limits based on new averaging planRemoved references to other regulatory agencies because the new acid rain plan only involves NC-based facilities
	2.5 (formerly 2.6)	<ul style="list-style-type: none">Updated references to CAA Section 112(r) and the Risk Management PlanAdded note regarding most recent RMP submittal
	2.5 (former)	<ul style="list-style-type: none">Removed CAIR because the rule has expired

* This refers to the current permit unless otherwise stated.

DRAFT

Comments Received on Initial Draft

- Betty Gatano, by email on November 16, 2016

1. Betty pointed out typos and corrections throughout the permit and review.

Response: I have made the appropriate changes.

2. Why is one of the permit conditions for 02D .0536 is marked state-only, while the other one is not?

Response: After some research, I have determined that the opacity limits in 02D .0536 are not part of NC's SIP, while the PM limits are.

3. The permit condition for 02D .0606 does not have noncompliance statements.

Response: Fixed.

4. Where did the limits in Section 2.1 A.4.f come from? They are not the same as those in the rule.

Response: The limits were changed (and lowered) with the T30 permit⁴. They were chosen because they are the same as the PM limits in MACT Subpart UUUUU.

5. The table of changes should have a complete list of all the changes to insignificant emission sources

Response: Done.

6. The permit should contain a condition that explicitly states there are no requirements under MACT Subpart ZZZZ.

Response: I have added this under a new section (2.2 C.1)

7. Why does Section 2.1 A.2.e require semiannual CEMS reporting for NOx, while the rest of the permit requires quarterly CEMS reporting?

Response: This has been the case since at least the T15 permit⁵. While it is not specified why this is the case, I see no reason to change it.

8. Throughout the permit, reporting for 02D .0521 refers to the stipulation for 02D .0606 (Section 2.1 A.7.d). Why is this the case?

Response: In general, the permit requires periodic Method 9 testing for VE from several sources, and requires reporting for each test. Section 2.1 A.7.d is the first instance of such reporting, and it appears that each other instance simply links to it. I have changed this such that each instance does not have a cross reference. Ultimately, the requirements have not changed, but they should be clearer.

4 Ed Martin; August 29, 2016

5 Rahul Thaker; July 2, 2003

9. Betty proposed changes to the permit stipulation for the Section 112(r) risk management program.

Response: After further discussion, we settled on the 112(r) condition.

- Reginald Anderson and Erin Wallace, by email on November 5, 2016

1. Erin asked if would be possible to retain the previous naming convention for the now exempt emergency generators.

Response: I had to change the names for these sources because IES-1 through 93 have already been taken. After explaining this, Erin did not pursue this request.

2. Erin disagreed with the change to the wording of the heading of Section 2.1 D. The draft appears to say that each individual source in the limestone handling process has a bagfilter. In reality, several sources vent to one bagfilter.

Response: I suggested a change to make this clearer, and Erin agreed with the proposed change.

3. Erin had questions regarding the update to the monitoring language for 02D .0521 for several sources.

Response: I had made these updates based on DAQ's new standardized monitoring for 02D .0521. After conferring with colleagues, it was determined that this new wording should not be applied to this specific facility. All of the draft changes to the monitoring requirements for 02D .0521 have been reverted.